

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/006,797  
Source: IFW16  
Date Processed by STIC: 3/9/05

***ENTERED***



IFW16

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/006,797

DATE: 03/09/2005  
TIME: 11:21:15

Input Set : A:\12669-002001.TXT  
Output Set: N:\CRF4\03092005\J006797.raw

4 <110> APPLICANT: Fraser, John David  
5 Nicholson, Melissa Joy  
8 <120> TITLE OF INVENTION: Immunomodulatory Constructs And Their  
9 Uses  
11 <130> FILE REFERENCE: 12669-002001  
13 <140> CURRENT APPLICATION NUMBER: US 10/006,797  
14 <141> CURRENT FILING DATE: 2001-12-04  
16 <150> PRIOR APPLICATION NUMBER: US 60/251,243  
17 <151> PRIOR FILING DATE: 2000-12-04  
19 <160> NUMBER OF SEQ ID NOS: 22  
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
23 <210> SEQ ID NO: 1  
24 <211> LENGTH: 621  
25 <212> TYPE: DNA  
26 <213> ORGANISM: Streptococcus pyogenes  
28 <400> SEQUENCE: 1  
29 gactctaaga aagacatttc gaatgtaaa agtgatttac tttatgcata cactataact 60  
30 cctttagatt ataaaagattt cagggttaat ttttcaacga cacacacatt aaacattgtat 120  
31 actcaaaaat atagaggaa agactattat attagttccg aaatgtctta tgaggcctct 180  
32 caaaaattta aacgagatga tcatgttagat gtttttggat tattttatat tcttaattct 240  
33 cacaccggtg agtacatcta tggaggaatt acgcctgctc aaaataataa agtaaatcat 300  
34 aaattattgg gaaatcttatt tatttcggga gaatctcaac agaacttaaa taacaagatt 360  
35 attctagaaa aggatatcgt aactttccag gaaattgact ttaaaatcag aaaataccctt 420  
36 atggataatt ataaaattta tgacgctact tctcctttagt taagcggcag aatcgaattt 480  
37 ggcacaaaag atgggaaaca tgagcaaata gacttatttgc actcacccaa tgaaggact 540  
38 agatcagata ttttgcaaa atataaagat aatagaatta tcaatatgaa gaacttttagt 600  
39 catttcgata tttatcttga a 621  
41 <210> SEQ ID NO: 2  
42 <211> LENGTH: 207  
43 <212> TYPE: PRT  
44 <213> ORGANISM: Streptococcus pyogenes  
46 <400> SEQUENCE: 2  
47 Asp Ser Lys Lys Asp Ile Ser Asn Val Lys Ser Asp Leu Leu Tyr Ala  
48 1 5 10 15  
49 Tyr Thr Ile Thr Pro Tyr Asp Tyr Lys Asp Cys Arg Val Asn Phe Ser  
50 20 25 30  
51 Thr Thr His Thr Leu Asn Ile Asp Thr Gln Lys Tyr Arg Gly Lys Asp  
52 35 40 45  
53 Tyr Tyr Ile Ser Ser Glu Met Ser Tyr Glu Ala Ser Gln Lys Phe Lys  
54 50 55 60  
55 Arg Asp Asp His Val Asp Val Phe Gly Leu Phe Tyr Ile Leu Asn Ser  
56 65 70 75 80  
57 His Thr Gly Glu Tyr Ile Tyr Gly Gly Ile Thr Pro Ala Gln Asn Asn

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58 85 90 95  
 59 Lys Val Asn His Lys Leu Leu Gly Asn Leu Phe Ile Ser Gly Glu Ser  
 60 100 105 110  
 61 Gln Gln Asn Leu Asn Asn Lys Ile Ile Leu Glu Lys Asp Ile Val Thr  
 62 115 120 125  
 63 Phe Gln Glu Ile Asp Phe Lys Ile Arg Lys Tyr Leu Met Asp Asn Tyr  
 64 130 135 140  
 65 Lys Ile Tyr Asp Ala Thr Ser Pro Tyr Val Ser Gly Arg Ile Glu Ile  
 66 145 150 155 160  
 67 Gly Thr Lys Asp Gly Lys His Glu Gln Ile Asp Leu Phe Asp Ser Pro  
 68 165 170 175  
 69 Asn Glu Gly Thr Arg Ser Asp Ile Phe Ala Lys Tyr Lys Asp Asn Arg  
 70 180 185 190  
 71 Ile Ile Asn Met Lys Asn Phe Ser His Phe Asp Ile Tyr Leu Glu  
 72 195 200 205  
 75 <210> SEQ ID NO: 3  
 76 <211> LENGTH: 621  
 77 <212> TYPE: DNA  
 78 <213> ORGANISM: Artificial Sequence  
 80 <220> FEATURE:  
 81 <223> OTHER INFORMATION: Mutant from Streptococcus pyogenes  
 83 <400> SEQUENCE: 3  
 84 gactctaaga aagacatttc gaatgttaaa agtgatttac tttgtgcata cactataact 60  
 85 ctttatgatt ataaagattc cagggttaat tttcaacga cacacacatt aaacattgat 120  
 86 actcaaaaat atagagggaa agactattat attagttccg aatgtctta tgaggcctct 180  
 87 caaaaattta aacgagatga tcatgttagat gtttttgat tattttatat tctttgttct 240  
 88 cacaccgtg agtacatcta tggaggaatt acgcctgctc aaaataataa agtaaatcat 300  
 89 aaattattgg gaaatctatt tatttcggga gaatctcaac agaacttaaa taacaagatt 360  
 90 attctagaaa aggatatcgta aactttccag gaaatttgact taaaatcag aaaatacctt 420  
 91 atggataatt ataaaattta tgacgctact tctcctttagt taagcggcag aatogaatt 480  
 92 ggcacaaaag atggaaaaca tgagcaaata gacttatttgc actcacaaaa tgaaggact 540  
 93 caatcgata tttttgcaaa atataaagat aatagaatta tcaatatgaa gaacttttagt 600  
 94 catttcgata tttatcttga a 621  
 96 <210> SEQ ID NO: 4  
 97 <211> LENGTH: 207  
 98 <212> TYPE: PRT  
 99 <213> ORGANISM: Artificial Sequence  
 101 <220> FEATURE:  
 102 <223> OTHER INFORMATION: Mutant from Streptococcus pyogenes  
 104 <400> SEQUENCE: 4  
 105 Asp Ser Lys Lys Asp Ile Ser Asn Val Lys Ser Asp Leu Leu Ala Ala  
 106 1 5 10 15  
 107 Tyr Thr Ile Thr Pro Tyr Asp Tyr Lys Asp Ser Arg Val Asn Phe Ser  
 108 20 25 30  
 109 Thr Thr His Thr Leu Asn Ile Asp Thr Gln Lys Tyr Arg Gly Lys Asp  
 110 35 40 45  
 111 Tyr Tyr Ile Ser Ser Glu Met Ser Tyr Glu Ala Ser Gln Lys Phe Lys  
 112 50 55 60  
 113 Arg Asp Asp His Val Asp Val Phe Gly Leu Phe Tyr Ile Leu Cys Ser

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114 65 70 75 80  
115 His Thr Gly Glu Tyr Ile Tyr Gly Gly Ile Thr Pro Ala Gln Asn Asn  
116 85 90 95  
117 Lys Val Asn His Lys Leu Leu Gly Asn Leu Phe Ile Ser Gly Glu Ser  
118 100 105 110  
119 Gln Gln Asn Leu Asn Asn Lys Ile Ile Leu Glu Lys Asp Ile Val Thr  
120 115 120 125  
121 Phe Gln Glu Ile Asp Phe Lys Ile Arg Lys Tyr Leu Met Asp Asn Tyr  
122 130 135 140  
123 Lys Ile Tyr Asp Ala Thr Ser Pro Tyr Val Ser Gly Arg Ile Glu Ile  
124 145 150 155 160  
125 Gly Thr Lys Asp Gly Lys His Glu Gln Ile Asp Leu Phe Asp Ser Pro  
126 165 170 175  
127 Asn Glu Gly Thr Gln Ser Asp Ile Phe Ala Lys Tyr Lys Asp Asn Arg  
128 180 185 190  
129 Ile Ile Asn Met Lys Asn Phe Ser His Phe Asp Ile Tyr Leu Glu  
130 195 200 205

133 <210> SEQ ID NO: 5

134 <211> LENGTH: 432

135 <212> TYPE: DNA

136 <213> ORGANISM: Artificial Sequence

138 <220> FEATURE:

139 <223> OTHER INFORMATION: Synthetic construct

141 <220> FEATURE:

142 <221> NAME/KEY: CDS

143 <222> LOCATION: (1)...(429)

145 <400> SEQUENCE: 5

146 gac tct aag aaa gac att tcg aat gtt aaa agt gat tta ctt tgc gca	48
147 Asp Ser Lys Lys Asp Ile Ser Asn Val Lys Ser Asp Leu Leu Cys Ala	
148 1 5 10 15	
150 tac act ata act cct atc gaa ggt cgt acg cct gct caa aat aat aaa	96
151 Tyr Thr Ile Thr Pro Ile Glu Gly Arg Thr Pro Ala Gln Asn Asn Lys	
152 20 25 30	
154 gta aat cat aaa tta ttg gga aat cta ttt att tcg gga gaa tct caa	144
155 Val Asn His Lys Leu Leu Gly Asn Leu Phe Ile Ser Gly Glu Ser Gln	
156 35 40 45	
158 cag aac tta aat aac aag att att cta gaa aag gat acc gta act ttc	192
159 Gln Asn Leu Asn Asn Lys Ile Ile Leu Glu Lys Asp Thr Val Thr Phe	
160 50 55 60	
162 cag gaa att gac ttt aaa atc aga aaa tac ctt atg gat aat tat aaa	240
163 Gln Glu Ile Asp Phe Lys Ile Arg Lys Tyr Leu Met Asp Asn Tyr Lys	
164 65 70 75 80	
166 att tat gac gct act tct cct tat gta agc ggc aga atc gaa att ggc	288
167 Ile Tyr Asp Ala Thr Ser Pro Tyr Val Ser Gly Arg Ile Glu Ile Gly	
168 85 90 95	
170 aca aaa gat gga aaa cat gag caa ata gac tta ttt gac tca cca aat	336
171 Thr Lys Asp Gly Lys His Glu Gln Ile Asp Leu Phe Asp Ser Pro Asn	
172 100 105 110	
174 gaa ggg act aga tca gat att ttt gca aaa tat aaa gat aat aga att	384

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175 Glu Gly Thr Arg Ser Asp Ile Phe Ala Lys Tyr Lys Asp Asn Arg Ile  
176 115 120 125  
178 atc aat atg aag aac ttt agt cat ttc gat att tat ctt gaa aaa 429  
179 Ile Asn Met Lys Asn Phe Ser His Phe Asp Ile Tyr Leu Glu Lys  
180 130 135 140  
182 taa 432  
184 <210> SEQ ID NO: 6  
185 <211> LENGTH: 143  
186 <212> TYPE: PRT  
187 <213> ORGANISM: Artificial Sequence  
189 <220> FEATURE:  
190 <223> OTHER INFORMATION: Synthetic construct  
192 <400> SEQUENCE: 6  
193 Asp Ser Lys Lys Asp Ile Ser Asn Val Lys Ser Asp Leu Leu Cys Ala  
194 1 5 10 15  
195 Tyr Thr Ile Thr Pro Ile Glu Gly Arg Thr Pro Ala Gln Asn Asn Lys  
196 20 25 30  
197 Val Asn His Lys Leu Leu Gly Asn Leu Phe Ile Ser Gly Glu Ser Gln  
198 35 40 45  
199 Gln Asn Leu Asn Asn Lys Ile Ile Leu Glu Lys Asp Thr Val Thr Phe  
200 50 55 60  
201 Gln Glu Ile Asp Phe Lys Ile Arg Lys Tyr Leu Met Asp Asn Tyr Lys  
202 65 70 75 80  
203 Ile Tyr Asp Ala Thr Ser Pro Tyr Val Ser Gly Arg Ile Glu Ile Gly  
204 85 90 95  
205 Thr Lys Asp Gly Lys His Glu Gln Ile Asp Leu Phe Asp Ser Pro Asn  
206 100 105 110  
207 Glu Gly Thr Arg Ser Asp Ile Phe Ala Lys Tyr Lys Asp Asn Arg Ile  
208 115 120 125  
209 Ile Asn Met Lys Asn Phe Ser His Phe Asp Ile Tyr Leu Glu Lys  
210 130 135 140  
213 <210> SEQ ID NO: 7  
214 <211> LENGTH: 25  
215 <212> TYPE: DNA  
216 <213> ORGANISM: Artificial Sequence  
218 <220> FEATURE:  
219 <223> OTHER INFORMATION: Primers  
221 <400> SEQUENCE: 7  
222 cgggatccga ctctcaagaa agaca 25  
224 <210> SEQ ID NO: 8  
225 <211> LENGTH: 22  
226 <212> TYPE: DNA  
227 <213> ORGANISM: Artificial Sequence  
229 <220> FEATURE:  
230 <223> OTHER INFORMATION: Primers  
232 <400> SEQUENCE: 8  
233 ctgaattctt attttcaag at 22  
235 <210> SEQ ID NO: 9  
236 <211> LENGTH: 20

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237 <212> TYPE: DNA  
238 <213> ORGANISM: Artificial Sequence  
240 <220> FEATURE:  
241 <223> OTHER INFORMATION: Primers  
243 <400> SEQUENCE: 9  
244 gatttacttt gtgcatacac 20  
246 <210> SEQ ID NO: 10  
247 <211> LENGTH: 18  
248 <212> TYPE: DNA  
249 <213> ORGANISM: Artificial Sequence  
251 <220> FEATURE:  
252 <223> OTHER INFORMATION: Primers  
254 <400> SEQUENCE: 10  
255 atattcttg ttctcaca 18  
257 <210> SEQ ID NO: 11  
258 <211> LENGTH: 20  
259 <212> TYPE: DNA  
260 <213> ORGANISM: Artificial Sequence  
262 <220> FEATURE:  
263 <223> OTHER INFORMATION: Primer  
265 <400> SEQUENCE: 11  
266 gatttacttt gtgcatacac 20  
268 <210> SEQ ID NO: 12  
269 <211> LENGTH: 26  
270 <212> TYPE: DNA  
271 <213> ORGANISM: Artificial Sequence  
273 <220> FEATURE:  
274 <223> OTHER INFORMATION: Primer  
276 <400> SEQUENCE: 12  
277 gaaggggactc aatcagatat ttttgc 26  
279 <210> SEQ ID NO: 13  
280 <211> LENGTH: 34  
281 <212> TYPE: DNA  
282 <213> ORGANISM: Artificial Sequence  
284 <220> FEATURE:  
285 <223> OTHER INFORMATION: Primer  
287 <400> SEQUENCE: 13  
288 atcgaaggc gtacgcctgc tcaaaataat aaag 34  
290 <210> SEQ ID NO: 14  
291 <211> LENGTH: 22  
292 <212> TYPE: DNA  
293 <213> ORGANISM: Artificial Sequence  
295 <220> FEATURE:  
296 <223> OTHER INFORMATION: Primer  
298 <400> SEQUENCE: 14  
299 gattataaag attccagggt aa 22  
301 <210> SEQ ID NO: 15  
302 <211> LENGTH: 20  
303 <212> TYPE: DNA

**VERIFICATION SUMMARY**  
PATENT APPLICATION: US/10/006,797

DATE: 03/09/2005  
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Input Set : A:\12669-002001.TXT  
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